

REMARKS

Rejections under §112, Second Paragraph

Claims 1-2, 4-6, 10 and 11 have been rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner alleges that the "oxygen delivery pressure" and "liquid pressure" recited in claim 1 are not defined to the requisite degree necessary to reasonably apprise to scope of the invention to one of skill. Applicants respectfully disagree. For instance, this combination of features is described in the application as filed at page 6, lines 1-13 and page 7, lines 15-25. Further, the application as filed clearly states that "the pressure on the liquid side is kept higher than the pressure on the gas side to prevent the gas from passing through the membrane as bubbles" (page 5, second full paragraph). Thus, Applicants submit that one of skill in the art is clearly apprised of the scope of the invention. Withdrawal of this rejection is respectfully requested.

Rejections under §103

Claims 1, 2, 4-6 and 10-12 have been rejected as being unpatentable over GB Patent No. 2,197,341 to Quain et al. (Quain) in view of "Malting and Brewing Process" by Masschelein et al. (Masschelein) and in further view of U.S. Patent No. 4,978,616 to Dean (Dean), U.S. Patent No. 4,764,471 to Ripka (Ripka) and "Cross-Flow Filtration" by Vogel et al. (Vogel). Applicants respectfully submit that Examiner is improperly partaking in hindsight reconstruction of Applicants' claims.

Regarding claims 1, 2, 4-6, 10 and 11, Examiner alleges that Quain discloses monitoring the oxygen content of a yeast suspension and progressively increasing the rate of oxygen introduction into the yeast suspension. However, Quain does not disclose or suggest modifying this method to achieve a bubble-free transfer of oxygen to the yeast slurry in an effort to minimize or eliminate foaming, as stated in the present application. Further, nothing in Quain discloses or suggests that such a modification would be feasible, let alone successful.

The Examiner concedes that Quain is silent regarding increasing pressure in delivering oxygen, but goes on to allege it would be obvious to do so in light of Dean and Ripka. However, Applicants submit that nothing in Quain discloses or suggests modifying Quain to yield the claimed invention. Further still, Applicants submit that nothing in Quain discloses or suggests that combining Quain with Masschelein, Dean, Ripka and/or Vogel will be feasible, let alone successful. Applicants submit that far from being obvious, Examiner is improperly partaking in hindsight reconstruction of Applicants' claims.

In addition, neither Quain nor Masschelein disclose or suggest the use of a hydrophobic, microporous membrane to transfer oxygen. Nothing in Quain or Masschelein discloses or suggests modifying Quain or Masschelein to incorporate the use of a hydrophobic microporous membrane. The Examiner alleges that Dean uses a fluid bed cell cultivation, Ripka discloses filtration or purification

systems and Vogel discloses microporous membranes and that therefore, it would have been obvious to use a membrane contractor as recited in the present claims. However, nothing in either Quain, Masschelein, Dean, Ripka or Vogel provides any motivation to combine and modify these references to yield the present claims. Further, Examiner has provided no such motivation, suggesting that without partaking in improper hindsight reconstruction of Applicants' claims, no one person of skill in the art would reasonably combine and modify the cited references to yield the present claims. Applicants respectfully submit that nothing in any of Quain, Masschelein, Dean, Ripka or Vogel, either alone or in combination, disclose or suggest all the elements of the present claims.

Regarding claim 12, the Examiner alleges that it would have been obvious to measure the oxygen uptake rate of yeast slurry by monitoring it as taught by Quain. However, as discussed above, nothing in Quain discloses or suggests the importance or value of monitoring the oxygen uptake rate of yeast slurry, especially in regards to achieving a bubble-free transfer of oxygen to the yeast slurry in an effort to minimize or eliminate foaming, as stated in the present application. Further, none of the cited references disclose or suggest measuring dissolved oxygen in the yeast tank downstream of the membrane so as to determine the oxygen uptake rate and thereby determine the oxygen delivery pressure to the membrane.

Accordingly, it is believed that the elements of claims 1, 2, 4-6 and 10-12 are not suggested or disclosed in Quain, Masschelein, Dean, Ripka or Vogel, either alone or in combination. Withdrawal of this rejection is respectfully requested.

Conclusion

Applicants respectfully submit that claims 1, 2, 4-6 and 10-12 are now in condition for allowance. Favorable reconsideration is respectfully requested.

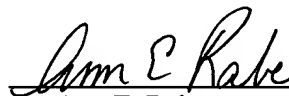
Other than the fee for the three month extension, no additional fees are believed to be needed for this amendment. If additional fees are needed, please charge them to Deposit Account 17-0055.

Respectfully submitted,

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Dated: August 9, 2006

By: _____



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